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EXAMINER

MCFADDEN, SUSAN IRIS

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 10

Application Number: 09/696,485
Filing Date: October 25, 2000
Appellant(s): PICKERING, JOHN BRIAN

Michael Adams
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10-8-03.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is

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presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-27 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

6311159	VAN TICHELEN	10-20001
6427134	GARNER	07-2002
5765130	NGUYEN	06-1998
6604075	BROWN et al.	08-2003
6606598	HOLTHOUSE et al.	08-2003
6510417	WOODS et al.	01-2003
6173266	MARX et al.	01-2001

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-11,13-24 and 26-27, are rejected under 35 U.S.C. 102(e) as being anticipated by Van Tichelen et al. (6.311,159).

In regard to claims 1,7,14,20, and 27, Van Tichelen et al. show in Figure 2A, a method, medium, and system for speech recognition which: a) circuitry that plays a prompt to a user (item 21), b) circuitry that receives an audio input from a user while the prompt is being played (barge-in, col. 7-8), c) circuitry that performs speech recognition on the audio input (when speech is determined) to determine a corresponding text (ASR: automatic speech recognition, Col. 1, Fig. 4), d) circuitry that performs an analysis (including lexical, col. 10, ln 1-13) of the text to determine if it satisfies conditions (Natural Language Understanding (NLU), col. 13, Fig. 4), and which e) either terminate the playing of the prompt

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when conditions are satisfied or continuing the playing of the prompt (col. 14-col. 15, modal or non-modal, barge-in capabilities).

In regard to claims 2,8,15, and 21, the step of discarding said text is inherent when the internal timers time out (col. 15, ln 5-11). When the system has timed out, data is not used because a correct answer was not recognized and the system goes to the next prompt or restarts the dialog. Time outs are either synchronous, in which the action queue is blocked for a specific time during operation or asynchronous, in which case the prompts time out after time has elapsed (2 seconds).

In regard to claims 3,4,6,9,10,13,16,17,19,22,23, and 26, Van Tichelen et al. show that certain tools are used to check the accuracy of the spoken words (col 13, ln 40-50), based on acoustic parameters, which include a lexicon tool which could inherently check to see that the text satisfies a condition containing a predetermined word specific to the prompt being played out (speech understanding grammars).

In regard to claims 5,11,18, and 24, Van Tichelen et al. show that the voice processing system and user communicate with each other over a telephone network, whereby the prompt is played over a telephone and the audio is received over a telephone connection (col. 13, ln 10-25).

Claims 12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Tichelen et al. (6.311,159) in view of Garner et al. (6,427,134).

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In regard to claims 12 and 25, Van Tichelen et al. show that the voice processing system and method above. They do not specifically show that a voice activity detector is used to discriminate between speech and noise. Garner et al. show a voice activity detector used in phone that discriminates between speech and noise (Abstract). If noise is detected, a signal is not transmitted and Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to add this feature because it provides the system with a more accurate input in noisy environments (col. 2, ln 10-15).

(11) *Response to Argument*

Applicant's arguments filed 10-8-03 with respect to claims 1-27 have been considered but are not persuasive.

Applicant has argued that Van Tichelen et al. do not show barge-in capability providing speech recognition on audio input to determine a corresponding text and performing lexical analysis to determine whether the text satisfies one or more conditions. In column 13, line 26 and Figure 4, Van Tichelen shows that the recognized input speech must undergo Natural Language Understanding and various tools (grammar tool, lexical tool inherently performing lexicon analysis) can be used on the words to see whether they fit certain conditions. Speech input from a user would be converted from speech to text using the processes described above (Fig. 4). Then the speech input would be checked in a database using lexical analysis to see whether the answer matches one of the allowable answers stored in the database. If the answer matches, another prompt would be generated (col. 13, ln 10-25). If the answer

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doesn't match, the system would repeat the prompt or go to a help dialog. Typically, barge in systems store a list of allowable words in a database, for example if the system asked: "Who would you like to speak to?" Allowable answers would be any names of people working at the company. Marx et al. show this feature explicitly in columns 2, lines 10-25. This is analogous to the "conditions" that the applicant has stated which must be satisfied. Applicant has argued that Van Tichelen is only relevant to "small vocabulary" applications. Van Tichelen shows that this system can be used for a variety of applications including "large vocabulary continuous speech recognition" (col. 7, ln 47-54).

The Examiner took Official Notice that one of ordinary skill in the art familiar with barge-in systems knows that systems that accurately recognize words which satisfy desired conditions turn off the prompt being generated. An example of this is the newly cited patent: 6,510,417 (Woods et al) which shows in column 9, line 44-60, the use of "barge in"; where a user can interrupt with an answer before a list or prompt is finished playing. Other relevant patents, which show the state of the art in barge-in systems, are Nguyen (5,765,130), Marx et al (6,173,266), Brown et al (6,604,075), and Holthouse et al (6,606,598).

With regard to Applicant's arguments pertaining to claim 27, Applicant has claimed "determining if said audio input is speech input". Van Tichelen shows that the "input" can be determined to be DTMF (Dial Tone Multi-Frequency) signals, speech signals determined by and Automatic Speech Recognition system, acoustic signals which can be converted into digitally encoded speech signals using Speech Music Compression techniques, and a module that


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converts text messages into speech (col. 1-2). Therefore this system inherently determines if the audio is speech or another type of signal.

With regard to Applicant's arguments pertaining to claims 12 and 25, Applicant has claimed "means for receiving caller input includes a voice activity detector for discriminating between speech input and other forms of tone or noise input". Garner clearly shows in the Abstract that the voice activity detector discriminates between speech and noise in a mobile phone. It would be obvious to combine these references because they would produce a system (mobile phone or computer interface) that can operate reliably in a noisy environment (col. 2, ln 12-14). The speech controlled user interface of Van Tichelen could use a voice activity detector to generate accurate inputs. Applicant has argued that the rejection does not determine "whether to continue or terminate playing out of said prompt" which is not recited in claims 12 or 25.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


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Primary Examiner
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November 25, 2003

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